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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/072,171	02/07/2002	Masaaki Hiroki	SEL 302	1313

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COOK, ALEX, MCFARRON, MANZO,  
CUMMINGS & MEHLER, LTD.

Suite 2850  
200 West Adams St.  
Chicago, IL 60606

EXAMINER

NGUYEN, KEVIN M

ART UNIT

PAPER NUMBER

2674

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/072,171

Applicant(s)

HIROKI, MASA AKI

Examiner

Kevin M. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Request for Continued Examination***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 22, 2004 has been entered. An action on the RCE follows:

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3 and 10-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Ito et al (newly cited, US 5,877,738).

3. As to claims 1, 10, Ito et al teach an apparatus associated with a method of driving a LCD device comprising

a driving circuit is defined by row driver 1 and column driver 2 (fig. 4), a picture signals to the pixels is defined by Fig. 1C illustrates the synthesized voltage at the pixel formed at the intersection of row electrode X1 and column electrode Y1 (col. 16, lines 6-8).

Figs. 1A, 1B, 1C expressly show at least displaying one frame F1;

One frame F1 divides into a plurality of subframes, each subframes indicates at each period t1, t2, t3, and t4 (see fig. 1A);

Fig. 1C expressly shows the voltages of the pixel (voltages of the picture signals) consecutive periods t1 and t2 are different voltage, e.g.  $VX1+VY1$  and  $VX1+VY2$  are different  $VY1$  and  $VY2$  (see col.17, lines 42-48, and col. 18, lines 2-3).

4. As to claims 2, 11, Ito et al teach an apparatus associated with a method of driving a LCD device comprising

a driving circuit is defined by row driver 1 and column driver 2 (fig. 4), a picture signals to the pixels is defined by Fig. 1C illustrates the synthesized voltage at the pixel formed at the intersection of row electrode X1 and column electrode Y1 (col. 16, lines 6-8).

Figs. 1A, 1B, 1C expressly show at least displaying one frame F1;

One frame F1 divides into at least two subframes, two consecutive subframes indicate at each period t1 and t2 (see fig. 1A);

Fig. 1C expressly shows the voltages of the pixel (voltages of the picture signals) consecutive periods t1 and t2 are different voltage, e.g.  $VX1+VY1$  and  $VX1+VY2$  are different  $VY1$  and  $VY2$  (see col.17, lines 42-48, and col. 18, lines 2-3).

5. As to claims 3, 12, Ito et al teach an apparatus associated with a method of driving a LCD device comprising

Figs. 1A, 1B, 1C expressly show one frame F1 divides into a plurality of subframes, each subframes indicates at each period t1, t2, t3, and t4 (see fig. 1A);

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Fig. 1C expressly shows the voltages of the pixel (voltages of the picture signals) consecutive periods t1 and t2 are different voltage, e.g.  $VX1+VY1$  and  $VX1+VY2$  are different  $VY1$  and  $VY2$  (see col.17, lines 42-48, and col. 18, lines 2-3).

each row of the selection periods t1, t2, t3, t4 and weights voltage data is applied to the column electrodes Y1-Ym to obtain a desired display (see figs. 1A, 1B, 1C, col. 17, lines 18-25).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4/1, 4/2, 4/3, 5/1-5/3, 6/1-6/3, 7/1-7/3, 8/1-8/3, 9/1-9/3, 13/10-13/12, 14/10-14/12, 15/10-15/12, 16/10-16/12, 17/10-17/12, and 18/10-18/12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito et al in view of Katakura et al (previously cited, US 6,057,824).

As to claims 4/1-4/3, 5/1-5/3, 6/1-6/3, 7/1-7/3, 8/1-8/3, 13/10-13/12, 14/10-14/12, 15/10-15/12, 16/10-16/12, 17/10-17/12, Hirai et al teach all of the claimed limitations of claims 1-3 and 10-12, except for the frames are 1/60, 1/120, 1/24, 1/48, 1/96 second.

However, Katakura et al teach a related LCD device that includes the frame frequency 20-40Hz and the frame scanning frequency 60-120 Hz (column 17, lines 44-47). It would have been obvious to provide the frames are 1/60, 1/120, 1/24, 1/48, 1/96 second.

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Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the frame frequency 20-40Hz and the frame scanning frequency 60-120 Hz taught by Katakura et al for Hirai et al's frame frequency because this would provide display apparatus capable of a good halftone display while suppressing the flicker (column 2, lines 3-5 of Katakura et al).

7. As to claims 9/1-/9/3 and 18/10-18/12, Katakura et al review the present invention relates to a display apparatus for use in a monitor, a video camera, a projector, a television, and a car navigation system (column 1, lines 10-13).

#### ***Response to Arguments***

8. Applicant's arguments filed 12/22/2004 have been fully considered but they are not persuasive. Applicant argues features in the independent claims 1-3 and 10-12 that are newly recited. Thus, new grounds of rejection have been used. See above rejections. For these reasons, the rejections based on Ito et al and Katakura et al have been maintained.

#### ***Conclusion***


9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M. Nguyen whose telephone number is 571-272-7697. The examiner can normally be reached on MON-THU from 9:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick A Edouard can be reached on 571-272-7603. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin M. Nguyen  
Patent Examiner  
Art Unit 2674

KMN  
March 23, 2005

  
**XIAO WU**  
**PRIMARY EXAMINER**